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K. FRIEDLAENDER.

SUPERVISORY APPARATUS.

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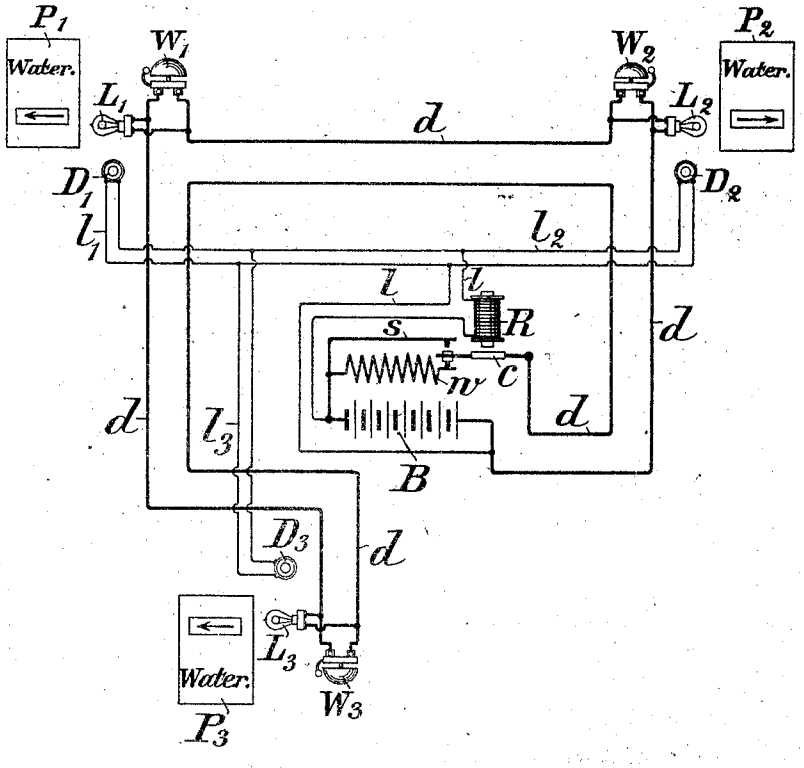

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SUPERVISORY APPARATUS.

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To all whom it may concern:

Be it known that I, KONRAD FRIEDLAENDER, naval officer, a subject of the German Emperor, residing at Berlin, W., 7 Pariserstrasse, Germany, have invented certain new and useful Improvements in Supervisory Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention refers to signaling apparatus and has for its object to provide means for continually exhibiting a visible sign indicating that the arrangement is ready for use and in case of need for making such means capable of lighting up the apparatus or the room in which it is installed.

The invention consists in placing electric glowlamps in the vicinity of a number of signaling devices and connecting them up in the manner hereinafter described in detail, by which they are made to glow just enough to be visible and thereby to continually indicate the readiness of the apparatus, but when the latter is operated to light up and thereby to provide light for the guidance of the operator or other persons.

The accompanying drawing is a diagrammatical illustration of the preferred manner of carrying out my invention.

In the drawing B is a battery or other suitable source of electrical current.

w is a resistance one end of which is attached to one terminal of the said battery and the other end of which contacts with the tongue *c* of a relay R. A short circuit *s* is arranged to shunt the resistance *w* and likewise to contact with *c* and the relay R is supposed to be arranged in such a manner that the tongue *c* is kept normally in contact with *w*, that is as long as the relay R remains inert. But when it is excited by a current passing through the conductors *l* it shifts the tongue *c* and thereby causes it to contact with *s*. In the building, vessel or other establishment that is to be protected by the device forming the subject of my invention I arrange signaling stations in suitable places from which it is desired to send alarm signals. In the example shown in the drawing three such stations are provided and are designated by the indices 1, 2, 3 attached to the reference letters indicating the different parts of each station.

D is a button or other suitable contact device attached to the conductors *l*, *l* and arranged to make a contact between them if operated by hand.

W is a bell or other suitable alarm signal and L is a glow-lamp. The bells W, W of all the stations are connected in series on a conductor *d* which also contains the battery B and every bell is shunted by the corresponding lamp L.

The operation of this arrangement is as follows. The described example is the preferred form of execution of my invention in case it is to be employed for the purpose of signaling a fire alarm. As has already been explained the tongue *c* normally contacts with the free end of the resistance *w*. The battery therefore continuously discharges current through the resistance *w* over the conductors *d* to all the lamps L and the resistance of the lamps and other parts is chosen in such a manner that the filaments of the lamps are kept at a dull red heat so as to make them just visible. They will therefore serve as a signal that there is current in the lines for anybody patrolling the building from one alarm station to the next. I also prefer to arrange the lamps L in proximity of the buttons D so that they will likewise serve to make those buttons visible to the patrolling watchman. When he discovers fire or from some other reason desires to strike an alarm, he presses the button at any station where he happens to be and thereby closes a contact between the conductors *l*, *l*. Current then passes from the battery to the relay R and causes the tongue *c* to be shifted to *s*, thereby short-circuiting the resistance *w*. Thus the whole electromotive force of the battery is brought to bear upon the bells W, W and the lamps L, L of the alarm stations and all the bells begin to ring and all the lamps are lighted up. By the light of the lamps placards P provided with an arrow showing the way to the next water tap or the like can be exhibited.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare, that what I claim is:

1. In signaling apparatus the combination with a source of electrical current of a resistance, a relay capable of shortcircuiting said resistance, and a plurality of alarm stations comprising each an alarm device, a glow lamp shunting said alarm device and a contact button controlling said relay.

2. In signaling apparatus the combination with a battery connected in series with a number of alarm devices each being shunted by a glowlamp and with a resistance, of a relay controlled by a number of contact buttons disposed in the vicinity of said alarm devices, and adapted to control said relay the relay being capable of short circuiting the said resistance.

3. In signaling apparatus the combination with a battery, a resistance and a plurality of signaling devices located at separate signal stations and in series with the battery, each of said signaling devices being shunted by a glowlamp and all parts being dimensioned so as to normally cause the said lamps to be barely visible, of means for short-circuiting the resistance and thereby operating the signaling devices and simultaneously lighting up the said lamps to deliver a signal to and illuminate the several stations.

4. In signaling apparatus the combination with a plurality of electrically actuated signaling devices located at separate signal stations and connected in series to a common battery, of glowlamps shunting each of said signaling devices, and means for increasing the electromotive force in the common battery circuit at will to deliver a signal to and illuminate the several stations.

5. In an alarm system, the combination with an alarm device, of an emergency index, a glow-lamp in proximity to said emergency index, means for keeping said lamp at a dull red heat, means for causing the lamp to light up when the said alarm device is operated, and contact mechanism in an independent circuit for controlling the alarm device; whereby under normal conditions the lamp indicates that the alarm circuit is intact and when the alarm device is operated the lamp illuminates the emergency index; substantially as described.

6. In signaling apparatus the combination with a battery a resistance and plurality of bells connected in series with said battery and with said resistance and with glowlamps shunting each bell of a relay capable of shortcircuiting said resistance and of means to operate said relay such means being placed in the vicinity of said bells.

7. In an alarm system, a plurality of alarm stations, an alarm device and a glow lamp at each station, means for normally keeping said lamps at a dull red heat, and means at each station capable of actuating all the alarm devices and simultaneously increasing the current through the said lamps.

In testimony whereof, I have affixed my signature, in presence of two witnesses.

KONRAD FRIEDLAENDER.

Witnesses:
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